



Kodiak National Wildlife Refuge Marine Bird Survey Identification and Ageing Guide

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Photo credit: Jenna Cragg

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Kodiak Marine Bird Survey ID Guide

The Kodiak Archipelago Nearshore Marine Bird Survey is a multi-species monitoring program focusing on the most abundant seabirds in the region. The Survey is conducted in June when breeding populations of most species are considered most stable, a characteristic that is good for trend detection. A second survey is conducted in August when the number of birds increase as breeding activities come to an end and juvenile birds are typically out of the nest and being attended by both parents. Because failed breeders or early migrants from other regions may also be moving into the nearshore waters around Kodiak at this time, for many species numbers tend to be more variable than in June. The primary goals of the August survey are to determine peak abundance and to estimate productivity, or the ratio of the number of hatch year (juvenile) birds to adults. This guide emphasizes:

- 1) **Difficult Species to Distinguish**
- 2) **Ageing Juvenile Birds for Productivity Estimates**

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CORMORANTS – We focus on species identification, not age. Three species in Kodiak, in order of abundance:
Pelagic Cormorant, Red-faced Cormorant, and Double-crested Cormorant.



Pelagic Cormorants – breeding adults seen here have white rump patches (as do Red-faced Cormorants); faces are dark red and coloration is not as extensive as on Red-faced Cormorants.



Red-faced Cormorants – breeding adults seen here have white rump patches (as do Pelagic Cormorants), faces are often bright florescent orange and coloration is more extensive than on Pelagic Cormorants, extending well above and behind their eyes.



Red-faced and Pelagic Cormorants - We focus on identification, ageing subadult cormorants after fledging is very challenging given time constraints of the survey.



Double-crested Cormorant – our largest and thickest-necked cormorant with fleshy bright yellow gular (where the lower mandible of the beak meets the neck).



Pelagic and Double-crested Cormorants – Breeding adults; Pelagic Cormorants are much smaller with thinner necks and dark red face

BLACK OYSTERCATCHER – Occasionally we see young hatch year birds in June, young are typically easy to distinguish from adults.



Black Oystercatcher – Adults with small chick in June (top) and adult with large chick in August (bottom). Hatch year oystercatchers have dark bill tips and lack bright eye coloration and eye ring.

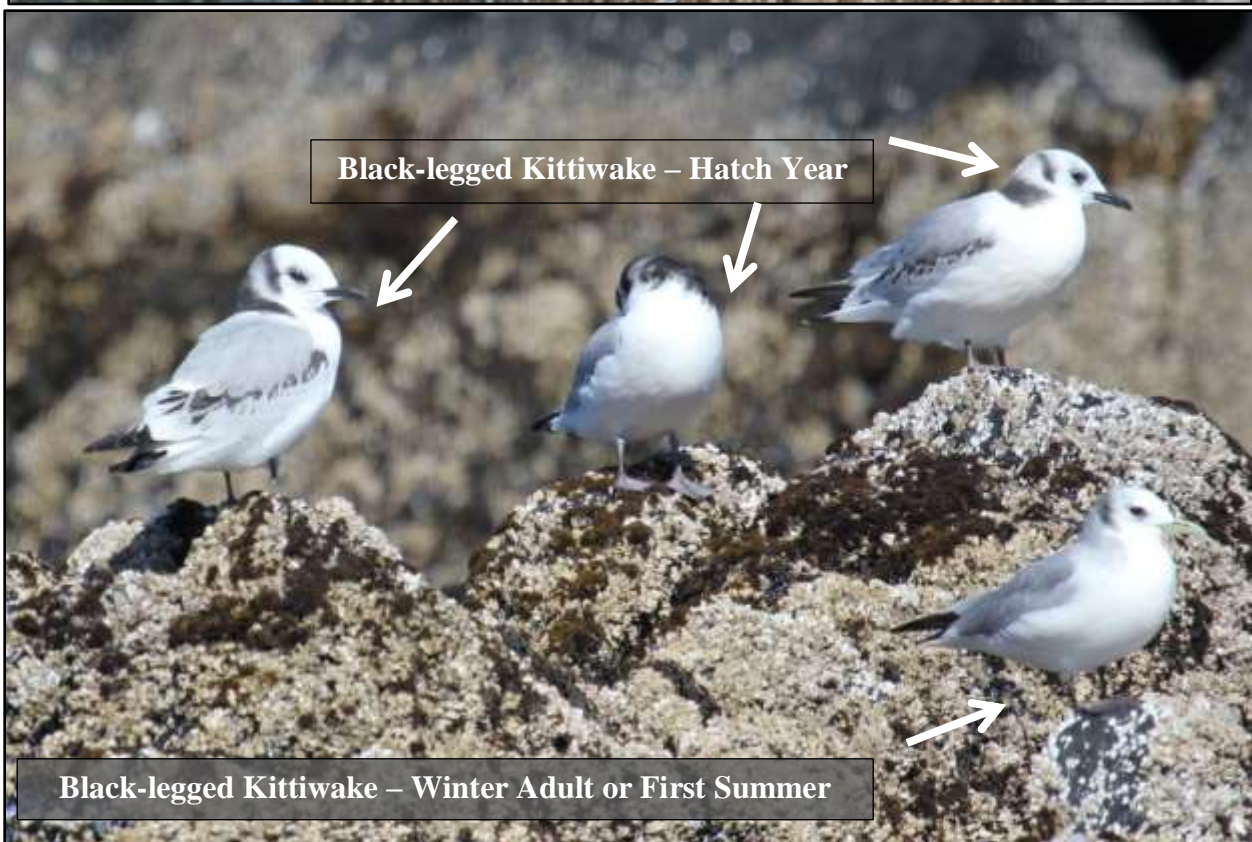
GULLS & TERNS – Most common species are Black-legged Kittiwakes, Glaucous-winged and Mew Gulls, and Aleutian and Arctic Terns



Glaucous-winged Gulls – Adults (top) with Black-legged Kittiwake in the background, and adults with young chicks (bottom).



Glaucous-winged Gull – Hatch year birds are solid dark gray.



Black-legged Kittiwake – hatch year birds have very distinctive black collars on the back of their necks, black wing patches, and black bills. They are easily identified from breeding adults but year-old kittiwakes retain smudge-like black head markings during their first full summer, similar to winter-plumaged adults.



Aleutian Tern – Adult (top) has black bill & legs; white forehead patch. Often this cannot be determined in a bird in flight at a distance. Vocalizations are an excellent way to distinguish tern species, Aleutian terns have a chirping finch-like call while Arctic terns have a more gull-like nasal call. Hatch year (bottom) has pale bill & legs; white forehead patch, like an Arctic tern hatch year but is much browner overall with brown wash on back, breast, and sides.



Adult Terns in Flight – Adult Aleutian Tern (top) and adult Arctic Tern (bottom).



Arctic Tern – Adult has red bill & legs; solid black cap. Often this cannot be determined in a bird in flight at a distance. Vocalizations are an excellent way to distinguish tern species, Aleutian terns have a chirping finch-like call while Arctic terns have a more gull-like nasal call.



Arctic Terns – Adult with downy young in colony in June (top) and two adults with four hatch year terns in August (bottom). Note that hatch year Arctic Terns have the white forehead patch like an Aleutian Tern and leg and bill coloration are similar to an Aleutian Tern hatch year but overall these young terns are less brown.



Arctic Terns – Two hatch year and one adult Tern in August. Hatch year Arctic Terns have a slight brown wash and tails are shorter than adults.

ALCIDS – The most commonly seen are Pigeon Guillemots and Marbled Murrelets.



Pigeon Guillemot – Breeding adult is striking black bird with white wing patches and bright red legs.



Pigeon Guillemot – Hatch years are white, black, and gray similar to the adult guillemot winter plumage.



Pigeon Guillemots – Hatch-year is similar to a winter adult guillemot but plumage is more variable and often darker.

BRACHYRAMPHUS MURRELETS –Marbled and Kittlitz’s Murrelets



Marbled Murrelet (MAMU) breeding adult (left) Kittlitz’s Murrelet (KIMU) breeding adult (right) - MAMU tend to be more solid brown in color, however, plumage is highly variable and MAMU can have a very brown and white mottled appearance. MAMU have longer bill (distance from nares to tip of bill). KIMU are often described as golden, adults tend to be much more mottled or speckled looking than MAMU, but not necessarily lighter in color than a MAMU.



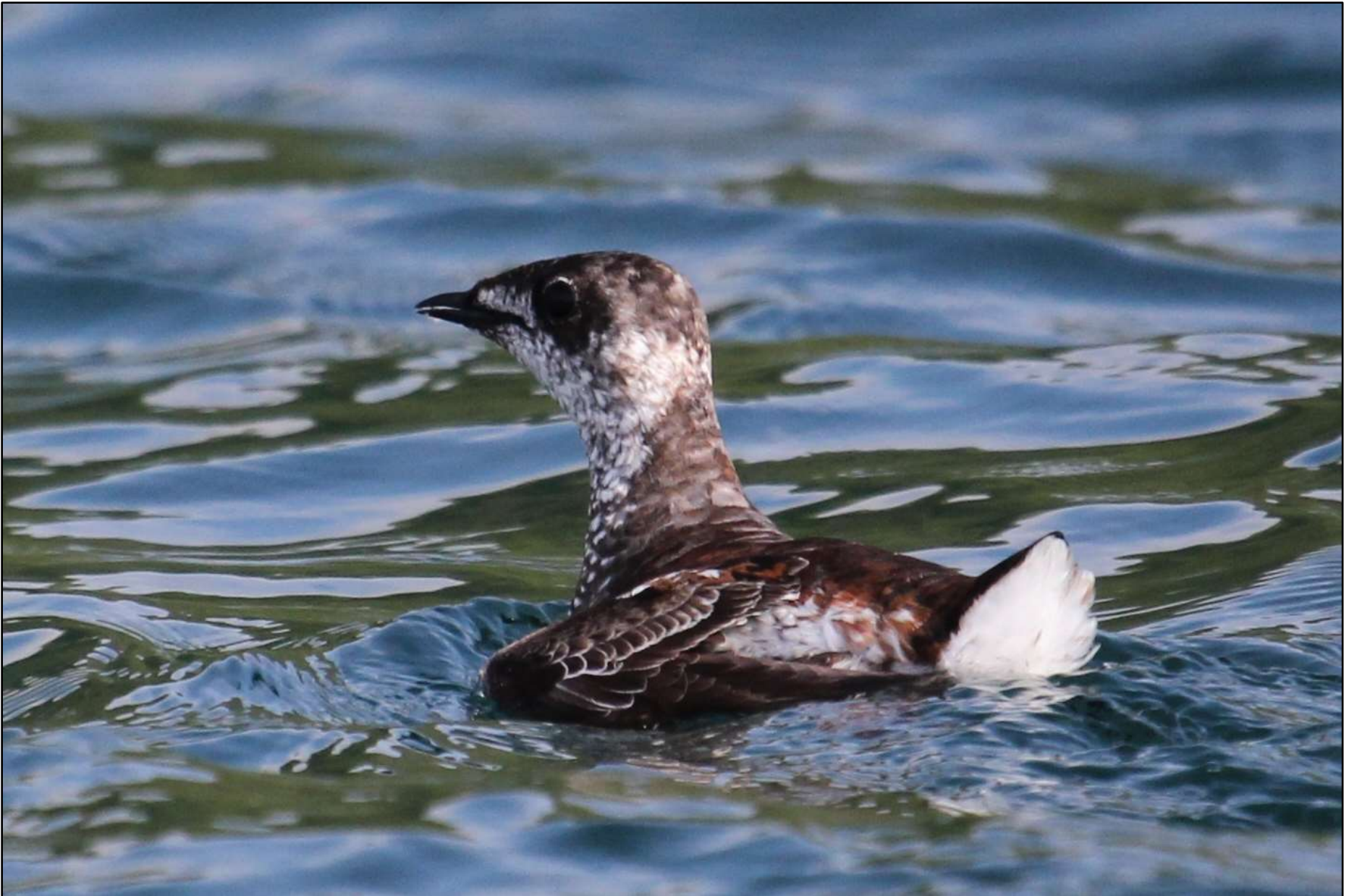
Marbled Murrelet breeding adult (left) and Kittlitz's Murrelet breeding adult (right) - In this photo head shape is distinctive with MAMU having a longer looking bill.



Marbled Murrelet Breeding Adult – Classic chocolate-brown, very good lighting.



Marbled Murrelet Breeding Adults – Note solid dark brown tail feathers (including outer rectrices). When taking off from the water MAMU do display two white lines or patches along the back above the tail.



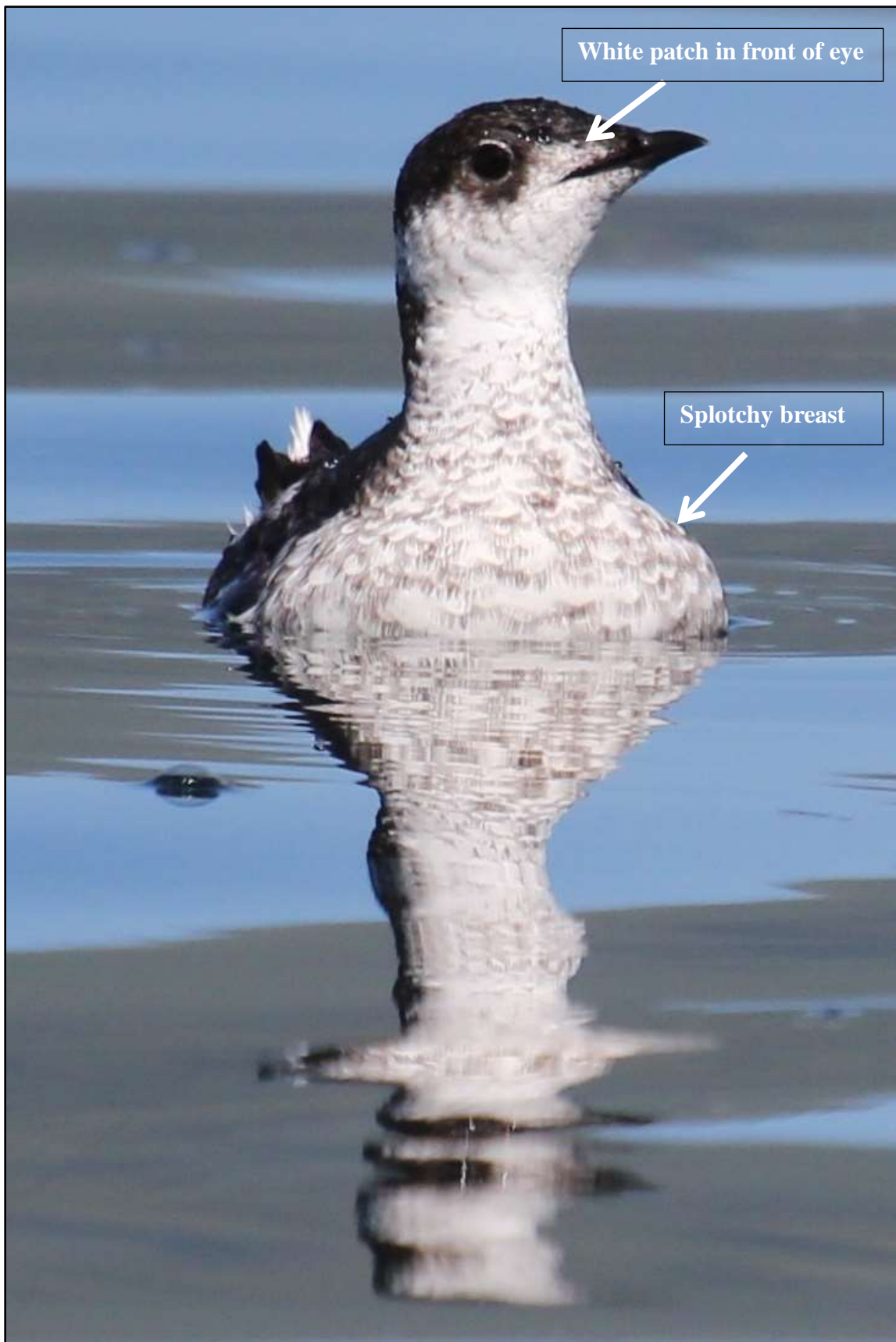
Marbled Murrelet Adult in June – A small percentage of MAMU do not fully molt from the black and white winter plumage into brown breeding plumage and remain mottled brown-black-and-white.



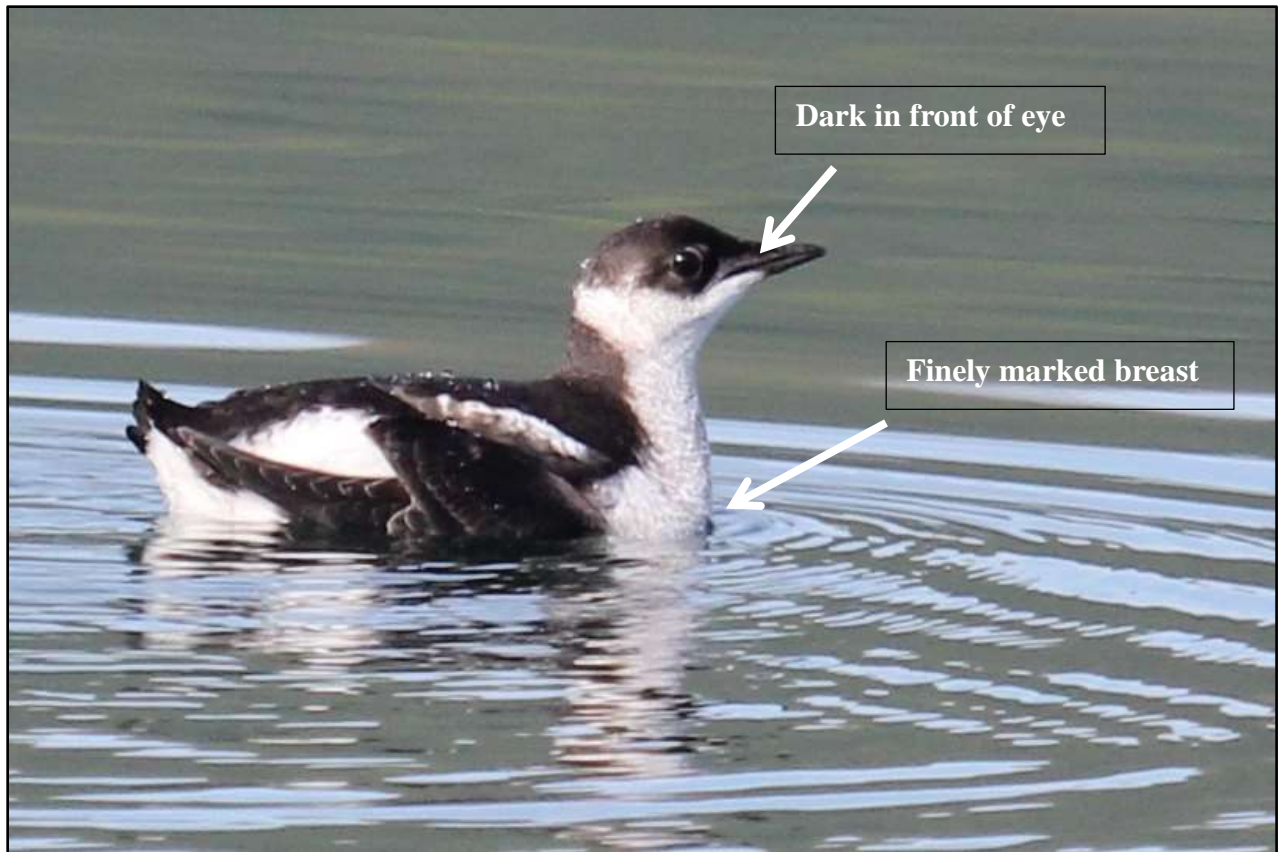
Marbled Murrelet Adult in June – MAMU that did not fully molt out of winter plumage into breeding plumage on takeoff showing all dark rectrices (tail feathers) and white patches on the sides of the back between tail and wings (seen primarily on takeoff).



Marbled Murrelet Adults in August – A small percentage of MAMU transition out of the brown breeding plumage into the black and white winter plumage in August and are extremely difficult to distinguish from hatch year MAMU. We attempt to photograph these birds and look for the white patch in front of the eye above the lower mandible, a splotchy appearance on the breast and sides, and any remaining brown feathers like the bird in the bottom photograph has on the upper wing coverts.



Marbled Murrelet Adult in August – Note white patch in front of eye and splotchy breast, this bird also appeared to be flightless.



Marbled Murrelet Hatch Years in August – Lack white in front of the eye on upper mandible and have much cleaner looking white breasts than adults transitioning into winter plumage.



Marbled Murrelet Hatch Years in August – Lack white in front of the eye on upper mandible and have much cleaner looking white breasts than adults transitioning into winter plumage.



Marbled Murrelet Hatch Years in August – Lack white in front of the eye on upper mandible. This bird has a darker breast but edging on the feathers is fine and uniform, not splotchy like an adult.



Kittlitz's Murrelet Breeding Adults – More mottled appearance than breeding adult Marbled Murrelets.



Kittlitz's Murrelet Breeding Adults – The difference lighting can make, this is the same pair and photographs were taken within one minute of each other.



Kittlitz's Murrelet Breeding Adult



Kittlitz's Murrelet Breeding Adults in Flight – Showing white outer rectrices (tail feathers) that are often cited as a key characteristic to identifying KIMU from MAMU.



Kittlitz's Murrelet Hatch Year Birds in August – Have a gray appearance, less mottled on the back than a breeding adult, we describe this plumage as a solid dark gray cap and saddle (top of the head and back). Bill from the nares to the tip looks very tiny. Juveniles are typically very approachable and easy to photograph.



Kittlitz's Murrelet Hatch Year Bird in August – Have an overall gray appearance, less mottled on the back than a breeding adult. This bird was one of the darkest we have ever photographed, particularly on the face.



Kittlitz's Murrelet Hatch Year Birds in August – Some recently fledged birds have a more black and white appearance with some golden flecking.



Kittlitz's Murrelet Hatch Year Birds in August – Older hatch year birds resemble adult birds but are less mottled.



Kittlitz's Murrelet Hatch Year Bird Taking Off - Shows white on outer rectrices.



Kittlitz's Murrelet Hatch Year Bird Taking Off - Shows white on outer rectrices.



Kittlitz's Murrelet Hatch Year Birds in August – Flat lighting showing key characteristics for ID - short bill, solid dark gray back, much grayer overall than MAMU adult or hatch year.

Murrelets are often accompanied by a single Black-legged Kittiwake sitting nearby on the water, the Kittiwake waits for the murrelet to surface with a fish and then attempts to steal the prey.



Marbled Murrelet Hatch Year with Kittiwake.



Marbled Murrelet Adult Pair with Kittiwake.



Marbled Murrelet Adult with Kittiwake.



Kittlitz's Murrelet Hatch Year with Kittiwake.



Kittlitz's Murrelet Hatch Year with Kittiwake.